

Patent Claims

1. A compressor, in particular a high-pressure compressor of a gas turbine, in particular of an aircraft engine, comprising at least one rotor and multiple rotating blades (11, 12) which are assigned to the or each rotor and rotate together with the respective rotor, each rotating blade (11, 12) being essentially delimited by a flow inlet edge or leading edge (16), a flow outlet edge or trailing edge (17) and a blade surface (20) extending between the leading edge (16) and the trailing edge (17) and forming a suction side (18) and a pressure side (19), characterized in that the leading edges (16) of the rotating blades (11, 12) are slanted at a sweep angle, which changes with the height of the respective rotating blade (11, 12), in such a way that, in a radially external area (23), the leading edges 11 have at least one forward sweep angle, one backward sweep angle or zero sweep angle radially adjacent to the forward sweep angle on the outside, and one forward sweep angle radially adjacent to the backward sweep angle or zero sweep angle on the outside.

2. The compressor as recited in Claim 1, characterized in that the radially external area (23) of the leading edges (16), in which they have at least one forward sweep angle, one backward sweep angle or zero sweep angle adjacent thereto, and one forward sweep angle adjacent to the backward sweep angle or zero sweep angle, is between 60% and 100% of the height of the rotating blade (11, 12).

3. The compressor as recited in Claim 2, characterized in that the radially external area (23) of the leading edges (16), in which they have at least one forward sweep angle, one backward sweep angle or zero sweep angle adjacent thereto, and one forward sweep angle adjacent to the backward sweep angle or zero sweep angle, is between 65% and 100% of the height of the rotating blade (11, 12).

4. The compressor as recited in Claim 3, characterized in that the radially external area (23) of the leading edges (16), in which they have at least one forward sweep angle, one backward sweep angle or zero sweep angle adjacent

thereto, and one forward sweep angle adjacent to the backward sweep angle or zero sweep angle, is between 70% and 100% of the height of the rotating blade (11, 12).

5. The compressor as recited in one or more of Claims 1 through 4, characterized in that the leading edges (16) have a forward sweep angle, a backward sweep angle adjacent to the forward sweep angle, and a forward sweep angle adjacent to the backward sweep angle in this radially external area (23) in the direction from radially inside to radially outside.

6. The compressor as recited in one or more of Claims 1 through 5, characterized in that the leading edges (16) have a forward sweep angle at a height of approximately 60% to 80% of the radial height of the rotating blades (11, 12).

7. The compressor as recited in one or more of Claims 1 through 6, characterized in that the leading edges (16) have a backward sweep angle or zero sweep angle at a height of approximately 80% to 90% of the radial height of the rotating blades (11, 12).

8. The compressor as recited in one or more of Claims 1 through 7, characterized in that the leading edges (16) have a forward sweep angle at a height of approximately 90% to 100% of the radial height of the rotating blades (11, 12).

9. The compressor as recited in one or more of Claims 1 through 11, characterized in that a rotating blade (11, 12) has a forward sweep angle at a leading edge (16) at a certain radial height when one point of the leading edge (16) of the rotating blade section at this height is positioned upstream vis-à-vis the leading edge points of rotating blade sections adjacent on the hub side.

10. The compressor as recited in Claim 12, characterized in that a rotating blade (11, 12) has a forward sweep angle at a leading edge (16) at a certain radial height when one point of the leading edge (16) of the rotating blade section at this height is positioned downstream vis-à-vis the leading edge points of rotating blade sections adjacent on the hub side.

11. A gas turbine, in particular an aircraft engine, having at least one compressor, in particular a high-pressure compressor, as recited in one or more of Claims 1 through 10.